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REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons which follow.

After amending the claims as set forth above, Claims 1, 2, 6, 8, 9, 12, 13 and 15 have been amended. Claims 21 and 22 have been added. No new matter is added. Hence, Claims 1-22 remain pending in the application.

In paragraph 3 of the Office Action, Claims 1-20 are rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 5,757,338 (Bassetti). The Examiner states:

Relative to claims 1, 8 and 12, Bassetti et al. teaches EMI reduction for a flat-panel display controller using horizontal-line based Spread Spectrum (col. 6, lines 13-67; col. 7, lines 1-8 and Fig. 7). Bassetti et al. further teaches an apparatus comprising: means for controlling a display (col. 6, lines 13-16; col. 8, lines 52-54 and Fig. 7); and means for buffering input data received from a data source provided to said controlling means (col. 6, lines 14-16); and said controlling means being adapted to provide a modulated driving signal to the display wherein at least one frequency component of the modulated driving single is attenuated by the modulation such that emanated electromagnetic emissions are reduced (col. 6, lines 13-14 and col. 8, lines 52-54); further still, Bassetti et al. teaches means for providing input to be displayed in the display to said controlling means (col. 8, lines 54-64 and Fig. 7, item 50), and input data providing means being adapted to provide a modulated input data signal to said controlling means to accommodate the modulated driving signal provided by said controlling means to the display (col. 8, lines 56-64; col. 9, lines 46-48 and 64-67; col. 10, lines 1-5 and Fig. 7).

Applicant respectfully traverses the rejection.

Each of the independent Claims 1, 8, 12, 21 and 22 recite a feature in which the row driving signal is modulated so that a period or frequency associated with one row is different from another row. Claim 1 recites:

 said controlling means being adapted to provide a modulated row driving signal to the display, wherein at least one

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frequency component of the modulated row driving signal is attenuated by the modulation such that emanated electromagnetic emissions are reduced, wherein the modulated row driving signal has a different period for one row than for another row.

Independent Claim 8 recites:

said controlling means being adapted to provide a modulated row driving signal to the display . . . the modulated row driving signal having a first period for a first row and a second period for a second row.

Independent Claim 12 recites:

means for causing said controlling means to provide a modulated row driving signal . . . the modulated row driving signal having a first effective frequency for a first row and a second effective frequency for a second row.

Independent Claim 21 recites:

the modulated row driving signal having a first effective frequency when provided to the first row and a second effective frequency when provided to the second row.

Independent Claim 22 recites:

providing a first row signal for a row of pixels during a first row time period in accordance with first data stored in the buffer, and the control circuit providing a second row signal during a second row time period for another row of pixels in accordance with second data stored in the buffer.

Therefore, each of independent claims 1, 8, 12, 21 and 22 recites features related to the provision of row signal.

Modulating the row driving signal is described throughout the present application. For example, the present application states:

In accordance with one embodiment in the present invention, LCD controller 210 is internally modified to provide a variable row timing such that multiple frequencies are included in the

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row signal spectrum . . . an example of distribution row times is shown in Table 1.

See present application, page 5, lines 1-16. Table 1 of the present application shows exemplary row time periods of 20 to 20.72 microseconds and effective frequencies of 12.5 to 12.042 kHz.

In direct contrast to the row signals recited in independent Claims 1, 8, 12, 21 and 22, Bassetti does not disclose or suggest the variation of the frequency, periods, or times for the row signal. Bassetti does not modulate the row driving signal and instead modulates the clock signal associated with the video clock. Bassetti states:

A newer technique to reduce EMI is vary or modulate the frequency of clocks in the PC.

See Bassetti, column 2, lines 29-30. In addition, Bassetti discusses modulation of the video clock (VCLK) and yet provides row signals at equal frequencies. See Bassetti column 9, lines 45-55. Bassetti even provides additional circuitry to ensure that the horizontal period (the period of the row signal) remains constant. See Bassetti column 11, lines 45-55.

Bassetti attempts to solve problems related to brighter and dimmer horizontal lines if a modulated clock signal is utilized. Bassetti increases frequency during a first half of the horizontal line and decreases it during the latter half of the horizontal line to ensure a constant time period for each horizontal line to ensure that a constant row time is achieved. Therefore, it is respectfully submitted that Claim 1 and its dependent Claims 2-7, Claim 8 and its dependent Claims 9-11, Claim 12 and its dependent Claims 16-20, Claim 21 and Claim 22 are patentable over Bassetti because Bassetti does not provide a suggestion for varying the period, the time, or the frequency of the row signal.

Further, it is respectfully submitted that the rejection for obviousness over Bassetti is improper because Bassetti teaches a way from the principles of the present invention. Indeed, as discussed above, Bassetti teaches that the period for the row signal must be remained constant in direct contrast to the present application. Accordingly, one skilled in the art reviewing Bassetti would not consider changing the frequency, time, or periods associated with

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the row signals because Bassetti teaches away from that concept. Accordingly, Claims 1-22 are patentable over Bassetti because Bassetti teaches away from the present application.

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

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MARKED UP VERSION SHOWING CHANGES MADE

In the Claims:

1 1. (Amended) An apparatus, comprising:
2 means for controlling a display; and
3 means for buffering input data received from a data source provided to said controlling
4 means;
5 said controlling means being adapted to provide a modulated row driving signal to the
6 display, wherein at least one frequency component of the modulated row driving signal is
7 attenuated by the modulation such that emanated electromagnetic emissions are reduced,
8 wherein the modulated row driving signal has a different period for one row than for another
9 row.
1 2. (Amended) An apparatus as claimed in claim 1, the modulated row driving
2 signal provided by said controlling means being a spread spectrum modulated signal.
1 6. (Amended) An apparatus as claimed in claim 1, said controlling means
2 comprising a controller structure, said buffering means comprising a FIFO memory structure,
3 and the modulated row driving signal provided by the controller structure being a spread
4 spectrum signal.
1 8. (Amended) An apparatus, comprising:
2 means for controlling a display; and
3 means for providing input data to be displayed in the display to said controlling means;
4 said controlling means being adapted to provide a modulated row driving signal to the
5 display wherein at least one frequency component of the modulated row driving signal is
6 attenuated by the modulation such that emanated electromagnetic emissions are reduced, said
7 input data providing means being adapted to provide a modulated input data signal to said
8 controlling means to accommodate the modulated row driving signal provided by said

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9 controlling means to the display, the modulated row driving signal having a first period for a first
10 row, and a second period for a second row.

1 9. (Amended) An apparatus as claimed in claim 8, the modulated row driving
2 signal provided by said controlling means being a spread spectrum signal.

1 12. (Amended) An apparatus, comprising:
2 means for controlling a display; and

3 means for causing said controlling means to provide a modulated row driving signal to
4 the display wherein at least one frequency component of the modulated row driving signal is
5 attenuated by the modulation such that emanated electromagnetic emissions are reduced, the
6 modulated row driving signal having a first effective frequency for a first row, and a second
7 effective frequency for a second row.

1 13. (Amended) An apparatus as claimed in claim 12, the modulated row driving
2 signal provided by said controlling means being a spread spectrum signal.

1 15. (Amended) An apparatus as claimed in claim 12, further comprising means
2 for providing input data to be displayed in the display to said controlling means, said input data
3 providing means being adapted to provide a modulated input data signal to said controlling
4 means to accommodate the modulated row driving signal provided by said controlling means to
5 the display.